

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW MEXICO**

BNSF RAILWAY COMPANY,

Plaintiff,

CIVIL NO. 06-1076 MCA/LFG

vs.

LAFARGE SOUTHWEST, INC.; STELLA  
R. VALENCIA, Personal Representative of the  
Estate of Robert J. Valencia; and GREGORY  
MARTINEZ and DARLENE COLEMAN,  
Personal Representatives of the Estate of  
Carol E. Duran,

Defendants.

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STELLA R. VALENCIA, individually, and as  
Personal Representative of the Estate of Robert J.  
Valencia, JOHN KELLY VALENCIA, DESIREE  
RICHELLE VALENCIA, STEPHANIE ESTELLE  
VALENCIA, and LILLIAN S. VALENCIA,

Counter Claimants/Cross-Claimants/  
Third-Party Plaintiffs,

vs.

BNSF RAILWAY COMPANY, and DARLENE  
COLEMAN, Personal Representative of the  
Estate of Carol E. Duran,

Counter-Defendants/Cross-Defendants,

MIKE TAFT, d/b/a Taft Construction;  
and EL PASO NATURAL GAS COMPANY

Third-Party Defendants.

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LAFARGE SOUTHWEST, INC.

Third-Party Plaintiff/Cross-Plaintiff

vs.

DARLENE COLEMAN, individually, and as Personal Representative of the Estate of Carol E. Duran; GREG GUTIERREZ and MATTHEW RAY DURAN, individually,

Plaintiffs,

vs.

BNSF RAILWAY COMPANY; LAFARGE SOUTHWEST, INC.; STELLA VALENCIA, Personal Representative of the Estate of Robert J. Valencia; MIKE TAFT, d/b/a Taft Construction; and EL PASO NATURAL GAS CO.,

Defendants.

**MEMORANDUM OPINION AND ORDER**

**THIS MATTER** comes before the Court on *The Duran Parties' Motion to Preclude an Opinion of Steven Karch, M.D. as Beyond his Qualifications* [Doc. 394], filed August 27, 2008; *BNSF Railway Company's First Motion in Limine, to Exclude the Opinions of Dr. Steven B. Karch as Inadmissible under the Rules of Evidence and Daubert* [Doc. 491], filed October 21, 2008; the *Valencia Claimants' Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of BNSF Railway Company's Expert Don C. Fisher, M.D. Pursuant to the Federal Rules of Evidence and Daubert* [Doc. 514], filed November 10, 2008; and the *Valencia Claimants' Motion in Limine with Supporting Authorities, to*

*Exclude the Opinions and Testimony of El Paso Natural Gas Company Expert Scott Phillips, M.D. Pursuant to the Federal Rules of Evidence and Daubert* [Doc. 516], also filed November 10, 2008. Having considered the parties' submissions, the relevant law, and otherwise being fully advised in the premises, the Court denies the Duran parties' motion; grants BNSF's motion; and denies the Valencia parties' motions.

## **I. BACKGROUND**

This action arises from a fatal collision between an eastbound freight train operated by Plaintiff BNSF Railway Company and a commercial dump truck that was being driven by decedent Carol Duran. On November 1, 2006, Ms. Duran, a contractor for Defendant/Third-Party Plaintiff Lafarge Southwest, Inc., was delivering gravel to a construction site near the railroad tracks when, at the apparent direction of her supervisor, Lafarge employee and decedent Robert Valencia, she stopped her truck on a crossing on the tracks in order to speak with him. Both Ms. Duran and Mr. Valencia were killed as a result of the train colliding with Ms. Duran's fully loaded truck.

An autopsy was performed on Mr. Valencia, and the Scientific Laboratory Division of the Office of the Medical Investigator (OMI) issued a subsequent toxicology report. That report reveals that Delta-9-Tetrahydrocannabinol (THC), the principal psychoactive constituent of marijuana, was found in an amount of 23 ng/ml in a sample of Mr. Valencia's pleural blood, and that 11-Nor-9-Carboxy-Delta-9-Tetrahydrocannabinol (Carboxy-THC), a metabolite of THC that is the major psychoactive constituent of marijuana, was found in an amount of 12 ng/ml. [See Doc. 491; Exh. 1, Valencia Toxicology Report at 1].

In the pretrial motions that are currently before the Court, the Duran parties seek to exclude the conclusion of Steven B. Karch, M.D., a licensed physician who does private consulting in cardiac pathology and toxicology, that Ms. Duran and Mr. Valencia were killed on impact, noting that “Lafarge retained Dr. Karch for his opinion that measurements of THC in the body go up after death.” [Doc. 394 at 4]. BNSF seeks to exclude Dr. Karch’s opinion that postmortem blood levels of THC are always higher than antemortem levels, as well as his “conclusion that it cannot be determined from the toxicology evidence whether Mr. Valencia had smoked marijuana at any time prior to the accident or was impaired at the time of the accident. . . .” [Doc. 491 at 4-5].

BNSF contends, however, that “Dr. Karch’s opinion that Mrs. Duran and Mr. Valencia died on impact with the train should *not* be excluded.” [Doc. 491 at 2 n.1 (emphasis added)]. BNSF argues that, because Dr. Karch is one of the Duran parties’ designated expert witnesses, his statement that Ms. Duran and Mr. Valencia died on impact is admissible under Fed.R.Evid. 801(d)(2)(B) as an adopted statement. [Doc. 446 at 3]. BNSF submits that Dr. Karch’s “death on impact” conclusion satisfies Daubert’s admissibility standards. [*Id.* at 5-10].

Finally, the Valencia parties move to exclude the expert medical opinions of Drs. Don Fisher and Scott Phillips that Mr. Valencia likely consumed marijuana within an hour of his death and was impaired at the time of the collision, on the ground that these opinions are speculative, unreliable, and without basis. [*See generally* Docs. 514, 516].

## **II. ANALYSIS**

Rule 702 of the Federal Rules of Evidence imposes a special gatekeeping obligation on this Court to ensure that expert testimony is not admitted at trial unless it is both relevant and reliable. See Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137, 141 (1999); Daubert v. Merrell-Dow Pharm., Inc., 509 U.S. 579, 592-93 (1993). The relevance of such testimony also must be weighed against “the danger of unfair prejudice, confusion of the issues, or misleading the jury” as well as “considerations of undue delay, waste of time, or needless presentation of cumulative evidence.” Fed.R.Evid. 403. While the Court is not required to consider any particular set of factors or utilize a particular procedure in making such determinations with respect to expert testimony, the Court must make *some* kind of determination on the record in order to demonstrate that it has performed its gatekeeping function. See United States v. Velarde, 214 F.3d 1204, 1209 (10th Cir. 2000); Goebel v. Denver & Rio Grande W. R.R. Co., 215 F.3d 1083, 1088 (10th Cir. 2000). As part of its gatekeeping function, and in addition to determining whether the proposed expert is qualified to offer an opinion, the Court must also determine whether (1) the testimony is based upon sufficient facts or data; (2) the testimony is the product of reliable principles and methods; and (3) the witness has applied the principles and methods reliably to the facts of the case. Reliability under Daubert is determined by looking at whether the reasoning or methodology underlying the testimony is scientifically valid, and relevance is determined by whether that reasoning or methodology properly can be applied to the facts in issue. Smith v. Sears Roebuck and Co., 232 Fed.Appx. 780, 781 (10th Cir. 2007).

**A. The Duran Parties' Motion to Preclude an Opinion of Steven Karch, M.D. as Beyond his Qualifications [Doc. 394]<sup>1</sup>**

**1. The Duran Parties' position that Dr. Karch is not qualified to give an opinion on whether Carol Duran was killed instantly**

Dr. Karch received his M.D. from Tulane University School of Medicine in 1969. From 1978 until 1989 he worked as an attending physician in the emergency department at the University Medical Center of Las Vegas. From 1989 to 1990 he served as director of the emergency department. He then worked as director of Trauma Center Development at the University Medical Center of Las Vegas and, after that, as the director of the Center's Trauma and Quality/Outcomes Research. In this last position, he directed the research program in trauma care and trained residents in research methodology. While so serving, he also worked part-time as an attending physician. From 1995 until 2004 Dr. Karch worked as an assistant medical examiner for the City and County of San Francisco and, from 2004 to the present, has engaged in private consulting in cardiac pathology and toxicology. [Doc. 394; Exh. A, Karch curriculum vitae at 1-2].

In 2006, Dr. Karch was board certified as a Fellow of the Faculty of Forensic and Legal Medicine of the Royal College of Physicians (London). He also is a member of, among other organizations, the American Academy of Forensic Sciences; the Forensic Science Society (UK); the Society of Forensic Toxicologists; the International Association

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<sup>1</sup> Through their *Second Notice of Joinder*, the Valencia parties join in the instant motion. [See Doc. 553 at 2 (“The Valencia Parties join[] in each and every motion, motion in limine, and each and every other affirmative or responsive pleading filed by the Duran Parties, and adopt[] by reference all such pleadings. . . .”).]

of Forensic Toxicologists; and the National Association of Medical Examiners. He has served as editor of *The Journal of Forensic and Legal Medicine*, as well as on the editorial boards of, among others, *The Journal of Forensic and Legal Medicine* (London); *Forensic Science, Medicine, and Pathology*; *The Academic Press Encyclopedia of Forensic and Legal Medicine*; *The Journal of Forensic Science*; and *The Journal of Cardiovascular Toxicology*. [Doc. 394; Exh. A, Karch curriculum vitae at 2-17]. He has written and spoken extensively on the topics of pathology, forensic medicine, toxicity, and toxicology. Finally, Dr. Karch has testified—both through deposition and at trial—as to cause of death in courts including, but not limited to, Los Angeles Superior Court; the United States District Court for the Northern District of California; the United States District Court for the Middle District of Georgia; Crown Court, Sydney, Australia; and Crown Court, Manchester, England. [*Id.*; Exh. A, Karch curriculum vitae at 17-21]. On the basis of these credentials, the Court concludes that Dr. Karch qualifies by education, training, and experience as an expert in the fields of forensic pathology and toxicology.

The Court additionally concludes that Dr. Karch’s proposed testimony that Ms. Duran and Mr. Valencia died on impact is relevant, as well as reliable. In reaching his conclusion, Dr. Karch reviewed, among other things, the deposition of Gerardo Ortiz (a truck driver who preceded Ms. Duran over the tracks and witnessed the collision and its aftermath); an autopsy report; and autopsy slides. The autopsy report states that “[a]utopsy findings consisted of multiple massive blunt force injuries of the entire body, including multiple fractures of various bones, and disruption of soft tissue and all internal organs. There were massive skull

fractures and the brain was avulsed (torn) from the skull, which would result in near-instantaneous death.” [Doc. 363; Exh. 16, Att. B at 5]. Additionally, Ms. Duran’s spinal column and heart were transected; her liver and spleen were “entirely pulpified[;]” her kidneys were fragmented; and she sustained numerous fractures. [Id.; Exh. 16, Att. B at 2]. Dr. Karch explained that, in concluding that Ms. Duran and Mr. Valencia died on impact, he “tr[ie]d to figure out when [he] saw that the train weighed 6,028 tons what kind of force it would have exerted, and it was pretty spectacular.” [Id.; Exh. C at 92].<sup>2</sup>

The Court concludes that, as a forensic pathologist with additional experience as an emergency room/trauma physician, Dr. Karch is qualified to opine that Ms. Duran and Mr. Valencia died on impact, for “[t]he practice of forensic pathology involves analyzing deaths.” Woodley v. PFG-Lester Broadline, Inc., 556 F.Supp.2d 1300, 1309 (M.D.Ala.,2008). The Court further concludes that the testimony in question is (1) relevant; (2) the product of reliable principles and methods; and (3) likely to assist the jury. See Fed.R.Evid. 702. Accordingly, the Court will deny the Duran parties’ motion.<sup>3</sup>

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<sup>2</sup> The Court has considered the Duran parties’ arguments that (1) “Dr. Karch does not have any specialized knowledge, skill, experience, training, or education in determining when death occurs when a person is run over by a train[;]” and (2) he is unqualified to render his opinion because he “has never studied any physics or biomechanics. . . .” [Doc. 394 at 4, 5]. However, the Court is not persuaded by these arguments. In this case, Dr. Karch considered the evidence upon which he bases his opinions in light of his medical knowledge and experience and reached the conclusion at issue. “The fact that experts in other fields might also be able to form opinions regarding the cause of . . . injury and would base those opinions on factors other than those used by Dr. [Karch] does not disqualify Dr. [Karch] from offering testimony that would be helpful to the jury. Smith v. BMW North America, Inc., 308 F.3d 913, 919 (8th Cir. 2002).

<sup>3</sup> The Court additionally concludes that Dr. Karch’s conclusion that Ms. Duran and Mr. Valencia died on impact amounts to an adoptive admission under Fed.R.Evid. 801(d)(2)(B),



**B. BNSF Railway Company's First Motion in Limine to Exclude the Opinions of Dr. Steven B. Karch as Inadmissible Under the Rules of Evidence and Daubert [Doc. 491]**

As previously explained, the OMI's toxicological report shows that THC, the principal psychoactive constituent of marijuana, was found in an amount of 23 ng/ml in a sample of Mr. Valencia's pleural blood, and that Carboxy-THC, a metabolite of THC that is the major psychoactive constituent of marijuana, was found in an amount of 12 ng/ml. [See Doc. 491; Exh. 1, Valencia Toxicology Report at 1]. Dr. Karch has offered the opinion that "that number in a cadaver is meaningless[.]" and, consequently, the OMI's toxicology report also is meaningless. [See Doc. 542 at 3; Exh. A, videotaped depo. of Steven Karch at 19]. Dr. Karch's conclusion is based upon his opinion that postmortem levels of THC increase over antemortem levels. [Doc. 542; Exh. A, Karch depo. at 54]. BNSF seeks to exclude as irrelevant and unreliable Dr. Karch's opinion that postmortem blood levels of THC are always higher than antemortem levels, as well as his opinion that time of marijuana ingestion can never be determined from postmortem blood levels. [Doc. 491 at 2, 6]. The Court addresses these arguments in reverse order.

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which allows admission of a "statement . . . offered against a party [that] is . . . a statement of which the party has manifested an adoption or belief in its truth. . . ." Fed.R.Evid. 801(d)(2)(B). On June 2, 2008, Lafarge designated Dr. Karch as an expert witness and disclosed his written report. [See Doc. 446; Exh. 1]. In *The Duran Claimants' Supplemental Expert Designations/Defensive Expert Designations* (June 2, 2008), the Duran parties "expressly adopt[ed] Lafarge Southwest, Inc.'s Fed.R.Civ.P. 26 Disclosures as they pertain to . . . Steven B. Karch, M.D." [Doc. 446; Exh. 3 at 3]. The Duran parties thus were aware of Dr. Karch's opinions, and their designation of him "cannot reasonably be viewed as anything but adoption of or acquiescence in those opinions." Kreppel v. Guttman Breast Diagnostic Inst., Inc., 1999 WL 1243891, at \*1 (S.D.N.Y. Dec. 21, 1999).

1. BNSF's Position: Dr. Karch's Opinion that Time of Marijuana Ingestion Can Never be Determined from Postmortem Blood Levels is Unfounded and Speculative

a. BNSF's position: the science establishing time of cannabis use has been thoroughly tested and peer-reviewed, and is generally accepted in the scientific community, although not by Dr. Karch

Through his deposition, Dr. Karch testified that Dr. Marilyn Huestis, of the Intramural Research Program on Chemistry and Drug Metabolism of the National Institutes of Health National Institute on Drug abuse, is “absolutely” an expert in her field and “arguably America’s leading research clinical toxicologist in abused drugs.” [Doc. 491; Exh. 2, Karch depo. at 36, 115]. Dr. Huestis has conducted controlled drug administration studies to develop two models for predicting time of last cannabis use from single cannabinoid concentrations. Model I uses THC, while Model II uses the concentration ration of the metabolite Carboxy-THC (THCCOOH) to THC. [Doc. 491; Exh. 3, “Estimating the Time of Last Cannabis Use” at 2289]. In her published article, “Estimating the Time of Last Cannabis Use from Plasma 9-Tetrahydrocannabinol and 11-nor-9-Carboxy-9-Tetrahydrocannabinol Concentrations,” (“the Huestis article”) Dr. Huestis and her co-authors demonstrate that the ratio of THC to its metabolite can be plotted over time, resulting in a predictive formula for time of last cannabis use to within 95% confidence intervals. [Id., Exh. 3 at 2290]. Moreover, “[s]cientists in North America, Europe, Australia, and Canada have applied these predictive models in forensic and medical situations in which it was important to estimate the time of last cannabis use.” [Id., Exh. 3 at 2290].

According to the Huestis article, “[u]sing the models and an individual’s plasma TCH and THCCOOH concentrations, one may estimate the time the individual last used cannabis and from this time period predict cognitive or performance decrements.” [Doc. 491; Exh. 3 at 2293]. The studies that generated Models I and II appear to have contemplated the models’ use in litigation, as is evidenced by the following explanation as to why the authors paid special attention to underestimates in the results: “[I]f a judicial investigator or physician wants to know whether a person with THC in his or her blood was impaired at the time of an accident, it is important to know how long before the accident that person smoked cannabis.” [Id.; Exh. 3 at 2293]. Importantly, “the models have been shown to be accurate in many legal proceedings in multiple countries over the last 13 years when the times of cannabis use were known.” [Id.; Exh. 3 at 2294]. Finally, while Dr. Huestis states that “in fatal accident cases, the important variables are the concentrations of drugs and metabolites in antemortem plasma [and that] estimating these from postmortem blood has not been well documented[,]” she also goes on to explain that “[e]rrors in converting postmortem blood to antemortem plasma concentrations may have an impact on predictions using model I but would have less effect on predictions using model II because model II estimates are based on the ratio of THCCOOH to THC.” [Id.; Exh. 3 at 2294].

Dr. Karch, however, has opined that “there is not a single peer-reviewed paper that ever said you can extrapolate one isolated blood value . . . to an antemortem state[,]” and that “postmortem levels don’t relate to antemortem levels.” [Doc. 491; Exh. 2, Karch depo. at 124, 157]. While he appears to take issue with Dr. Huestis’s statement about the potential

impact on her models of errors in converting postmortem blood to antemortem plasma (calling it a “fairly typical [statement] for expert toxicologists who don’t deal with postmortem cases” [Doc. 491; Exh. 2, Karch depo. at 115]), he has offered no scientific basis for his disagreement with the Huestis models. To be sure, he admitted that Dr. Huestis and peer reviewers “believe[] . . . entirely” in the validity of Model II to determine THC levels from postmortem blood; he “just happen[s] to think they are wrong.” [*Id.*; Exh. 2, Karch depo. at 116].

Because the Valencia parties<sup>4</sup> have not met their burden of demonstrating that the proffered “opinions of Dr. Steven B. Karch are generally accepted within the relevant professional scientific community[,]” the Court will grant BNSF’s motion to exclude Dr. Karch’s proposed testimony “that there is no reliable scientific support for extrapolation of ante-mortem levels of THC in a person’s body via post-mortem analysis.” [Doc. 500 at 4, 8]. This opinion has not been shown to be reliable.

b. BNSF’s position: not only is Dr. Karch’s opinion that postmortem THC levels are always higher than antemortem THC levels contradicted by his admittedly expert colleagues, his opinion has never been tested, cannot be proved, and has no support in the literature he cites

BNSF seeks to exclude Dr. Karch’s opinion “that the postmortem blood levels of THC are *always* higher than antemortem blood levels” on the ground that that opinion is “irrelevant to this case. . . .” [Doc. 491 at 2 (emphasis in original)]. The Valencia parties (and

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<sup>4</sup> Although Dr. Karch was retained as an expert by Lafarge, the Valencia parties wrote the response to BNSF’s motion to exclude his opinions, a response in which Lafarge has joined. [See Doc. 535].

Lafarge, through their *Second Notice of Joinder* [Doc. 535]) “agree with BNSF that the issue of whether or not the postmortem blood levels of THC are *always* higher than the ante mortem blood levels is, ‘irrelevant to this case.’” [Doc. 500 at 4, n.1 (emphasis in original)]. As the admissibility of Dr. Karch’s opinion on this discrete issue has now become a non-issue, the Court will grant this part of BNSF’s motion because it is not opposed.

Finally, the Court notes that, in their response, the Valencia parties assert, apparently for the first time, that “Dr. Karch will [additionally] testify that there is no basis for Dr. Fisher’s<sup>5</sup> opinion that Robert Valencia was impaired by THC where that opinion [was] contradicted by all first hand eye witness reports.” [Doc. 500 at 4].

To the extent that the Valencia parties are offering Dr. Karch to testify as to impairment, such testimony will not be permitted. Dr. Karch is admittedly unqualified to testify on the subject of impairment. Through his deposition, Dr. Karch explained that he (1) was “absolutely not” opining that Mr. Valencia was not impaired; (2) is “not an expert on impairment[, which] would be testifying beyond [his] training[;]” and (3) believes that the “general consensus” is that cannabis-impaired drivers make more errors in judgment than those not under the influence, but explained that that was neither his “field” nor “really of interest to [him].” [Doc. 491; Exh. 2 at 12, 44, 94]. Dr. Karch summed it up when he testified that his “field is when drugs kill people, *not when drugs impair people.*” [*Id.*; Exh. 2 at 99 (emphasis added)]. Consequently, Dr. Karch will not be allowed to offer an opinion that there is no basis for Don Fisher’s opinion that Mr. Valencia was impaired by THC.

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<sup>5</sup> Dr. Don Fisher is BNSF’s expert medical witness.

**C. Valencia Claimants' Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of BNSF Railway Company's Expert Don C. Fisher, M.D. Pursuant to the Federal Rules of Evidence and Daubert [Doc. 514]**

The Valencia parties seek to exclude the opinions and testimony of BNSF's proposed expert medical witness, Dr. Don C. Fisher, "that Mr. Valencia consumed marijuana within one hour of the incident and was impaired by the use of marijuana at the time of this incident, which in his opinion was a contributing cause of the incident." [Doc. 514 at 3]. They contend that Dr. Fisher is unqualified to render such an opinion, and also that his opinion is unreliable because the OMI's toxicology report, upon which Dr. Fisher relied in reaching his conclusions, was flawed. [*Id.* at 6]. The Valencia parties also argue that Dr. Fisher "failed to consider other more reliable sources of information to determine whether or not Mr. Valencia was impaired at the time of the incident." [*Id.* at 11].

**1. The Valencia parties' position: Dr. Fisher is unqualified to provide an expert opinion that Robert Valencia ingested marijuana within the hour of his death and as a result he was impaired**

Dr. Fisher, a board-certified toxicologist, graduated and received his M.D. from Tulsa Medical College, University of Oklahoma, in 1979. In 1984, he received a Master of Science in toxicology from the University of Arizona. From 1998 until the present, he has been in private practice in the fields of toxicology and occupational diseases. He also currently serves as a clinical assistant professor of toxicology both at the College of Pharmacy and in the Department of Medicine at the University of New Mexico. [Doc. 363; Exh. 16, Att. A].

Dr. Fisher belongs to, among other organizations, the American Academy of Clinical Toxicology; the Society of Toxicology; and the Mountain West Society of Toxicology. From 1998 until 2000, he served as a peer reviewer for the *Journal of Toxicology*. He has published on the subjects of hazardous materials toxicology and toxic exposure. [Doc. 363; Exh. 16, Att. A]. Since 2004, Dr. Fisher has testified seven times as a toxicological expert in New Mexico and Arizona state courts, and also has testified as an expert in deposition numerous times, including on the subject of THC and impairment. In 1998, Dr. Fisher twice testified as an expert toxicologist in separate cases in the United States District Court for the District of New Mexico. More recently, in September, 2008, he testified as an expert in Bernalillo County District Court regarding the effects of THC and employing the Huestis methodology of THC and THCA measurements. Dr. Fisher prepares reports for administrative judges in workers compensation cases in which he addresses whether employees were impaired (including by THC), and has experience, both in his practice and as an expert, in evaluating THC impairment of performance. [Doc. 560; Exh. 1, Fisher Affidavit]. On the basis of these credentials, the Court concludes that Dr. Fisher qualifies by education, training, and experience as an expert in the field toxicology.

In developing his opinions, Dr. Fisher relied upon extensive and peer-reviewed research on THC impairment. He explained in his written report he reviewed, among other things, the Valencia County Sheriff's Office Accident Report of November 1, 2006; Mr. Valencia's autopsy report of November 2, 2006; the OMI's toxicology report on Mr. Valencia; and Stella Valencia's answers to BNSF's first set of interrogatories. [Doc. 363;

Exh. 16, Att. D, April 25, 2008 report of Dr. Don Fisher at 2]. Through his deposition, Dr. Fisher testified that he considered the ratio of marijuana to marijuana metabolite and then employed the well-established methodology of Huestis models I and II (discussed more fully above) to predict time of consumption, as well as “the intensity of the exposure; that is, the dose [and] reported impairments at the same dose.” [Doc. 514; Exh. 1, Fisher depo. at 19-20]. Dr. Fisher’s hand-written mathematical calculations using the Huestis models are attached as an exhibit to his affidavit. [Doc. 560; Exh. 2, Dr. Fisher’s calculations]. Dr. Fisher then took the time-frame and dose and compared them to studies of performance as set forth in such publications as: Goodman & Gilman, *THE PHARMACOLOGICAL BASIS OF THERAPEUTICS*; C.T.J. Lamers et al., “Cognitive Function and Mood in MDMA/THC Users, THC Users, and Non-drug Using Controls,” *Journal of Psychopharmacology*; J.G. Ramaekers et. al., “Dose-related Risk of Motor Vehicle Crashes after Cannabis Use,” *Drug and Alcohol Dependence*; J.G. Ramaekers et. al., “Cognition and Motor Control as a Function of Delta 9 THC Concentration in Serum and Oral Fluid: Limits of Impairment,” *Drug and Alcohol Dependence*; and *MEDICAL TOXICOLOGY*. [Doc. 514; Exh. 1, Fisher depo. at 20; see also Doc. 363; Exh. 16, Att. D at 4 (Bibliography)].

Dr. Fisher also considered the likelihood of postmortem distribution, opining that “postmortem distribution of marijuana [was] unlikely to be significant in this case due to . . . the short duration between the time of death and the blood sampling at autopsy.” [Doc. 363; Exh. D at 2]. Still, Dr. Fisher testified that to address and account for Dr. Karch’s



postmortem-redistribution theory, he divided Mr. Valencia's serum THC level of 36.8 ng/ml<sup>6</sup> by a factor of 2.8, which number represents the highest factor of postmortem redistribution that he had been able to find, to calculate a level of THC at 13 ng/ml. According to Dr. Fisher, this level meant, to a scientific and medical probability, that Mr. Valencia was impaired at the time of the collision. [Doc. 560; Exh. 1 at 4-5].

The Court concludes that Dr. Fisher is qualified to provide expert testimony as to his opinion that Robert Valencia likely consumed marijuana within one hour of the accident and was impaired at the time of the accident.

The Court further concludes that Dr. Fisher's proposed testimony that Mr. Valencia likely consumed marijuana within one hour of the collision and was impaired at the time of the collision is (1) relevant; (2) the product of reliable principles and methods; and (3) likely to assist the jury. See Fed.R.Evid. 702.

2. The Valencia parties' position: the toxicology report that Dr. Fisher relied upon to conclude that Mr. Valencia was impaired at the time of the incident and that he had consumed marijuana within the hour of the accident was unreliable and flawed

The Valencia parties further challenge Dr. Fisher's opinion as to time of marijuana use and impairment, which is based upon his reading and interpretation of the OMI's toxicology report, on the ground that the toxicology report was unreliable because the pleural blood that was tested would likely have shown falsely elevated THC concentrations due to postmortem redistribution (the movement of drugs in the body after death). [Doc. 514 at 7-8].

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<sup>6</sup> Dr. Fisher explained that Mr. Valencia's THC level of 23 ng/ml, as measured in his *blood*, corresponded to a THC *serum* level of 36.8. [Doc. 560; Exh. 1 at 4].

The Valencia parties' position is based on the opinion of their expert, Dr. Steven Karch, that blood from Mr. Valencia's extensively lacerated liver, where THC is metabolized, "almost certainly comprised the blood submitted for analysis[.]" as did "heart blood," which is considered "an undesirable specimen for testing" because of "spurious[ly] elevat[ed] drug concentrations." [Doc. 514 at 7-8; Exh. 3, report of Dr. Karch at 7-8]. However, through his deposition, Dr. Karch testified that, while he "suspect[ed]" that heart blood was involved in the sample tested and that blood from Mr. Valencia's liver "more likely than not" comprised part of the sample, he could not "prove it," nor could he say so to a reasonable degree of medical probability. [Doc. 560; Exh. 5, Karch depo. at 135-136, 143-144]. Dr. Karch additionally admitted that he could not say, with regard to THC specifically, that levels would have increased in heart blood between the time of death and the time of autopsy, an autopsy that was performed within 24 hours of death and that Dr. Karch complimented as "particularly good[.]" [Doc. 491; Exh. 2, Karch depo. at 103, 134; see also Doc. 560; Exh. 5, Karch depo. at 140-141]. Moreover, both Dr. Fisher and Dr. Scott Phillips (another medical expert) contradicted Dr. Karch, explaining that heart blood was not sampled in this case. According to Dr. Fisher, the sampled blood was not "blood that was contained within the heart after death" but, instead blood from Mr. Valencia's transected aorta, which is "blood . . . that escapes the aorta from a rupture." [Doc. 560; Exh. 2, Fisher depo. at 59-60]. When Dr. Phillips was asked whether "THC concentrations in the heart [could] be as much as eight times higher than if they come from the legs[.]" he responded:

That's if the blood in the heart sits in the heart for a period of time. That's not what we're talking about here. That's sampling blood directly from the left ventricle or the right ventricle after it's been sitting in the heart for a period of time and that's not what we're measuring in this case.

[Id.; Exh. 4, Phillips depo. at 70]. From this, the Court concludes that the Claimants' proffered evidence does not support a determination that the OMI's toxicology report is flawed or unreliable.

3. The Valencia parties' position: Dr. Fisher failed to consider other more reliable sources of information to determine whether or not Mr. Valencia was impaired at the time of the incident

The Valencia parties criticize Dr. Fisher's opinion as unreliable and speculative because of Dr. Fisher's alleged failure to take into account eyewitness observations of Mr. Valencia's behavior on the morning of the collision. [See Doc. 514 at 11-14]. As an initial matter, the Court notes that, in his written report, Dr. Fisher expressly states that among the materials he reviewed in forming his conclusions were Stella Valencia's answers to BNSF's first set of interrogatories. [Doc. 363; Exh. D at 1]. Stella Valencia is the widow of Robert Valencia and was dropped off at work by Mr. Valencia within the hours preceding the collision. Dr. Fisher also testified to having considered the report of Gerardo Ortiz (the commercial truck driver who safely crossed the railroad tracks at issue just prior to Ms. Duran's arrival) that Mr. Valencia attempted to have Mr. Ortiz stop his truck on the tracks, behavior that Mr. Ortiz "felt . . . was inappropriate." [Doc. 514; Exh. 1 at 47-48].

Dr. Fisher additionally testified that, while the level of Mr. Valencia's impairment would have been measurable through testing, he did not think (though he admitted that it was

possible) that “the casual observer” would observe impairment “unless they were really intimately engaged with him.” [Doc. 560; Exh. 2; Fisher depo. at 38, 41]. Thus, the fact that Dr. Fisher did not “verify eyewitness accounts prior to reaching a conclusion that [Mr. Valencia] was impaired” relates to the weight of the evidence, not its admissibility.

Again, the Court concludes that Dr. Fisher’s proposed testimony regarding Mr. Valencia’s impairment and the likelihood that he consumed marijuana within one hour of the collision is (1) relevant; (2) the product of reliable principles and methods; and (3) likely to assist the jury. See Fed.R.Evid. 702. Accordingly, the Valencia parties’ motion to exclude Dr. Fisher’s testimony will be denied.

**D. Valencia Claimants’ Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of El Paso Natural Gas Company Expert Scott Phillips, M.D. Pursuant to the Federal Rules of Evidence and Daubert [Doc. 516]**

In this motion, the Valencia parties seek to exclude the opinion of Scott Phillips, M.D., “that Mr. Valencia likely consumed marijuana within one hour of impact, which in [Dr. Phillips’] opinion was a contributing cause of the incident.” [Doc. 516]. The bases for the Valencia parties’ position are essentially identical to the reasons provided for moving to strike Dr. Fisher: (1) lack of qualifications to testify as to the opinion; (2) the OMI’s toxicology report is unreliable and flawed; and (2) failure to consider “other more reliable” sources of information to determine impairment. [See generally Doc. 516]. Although Dr. Phillips was retained by El Paso Natural Gas Company, whose motion for summary judgment was granted by *Order* entered December 12, 2008, [see Doc. 593], Dr. Phillips has

been cross-designated as an expert witness by BNSF. [See Doc. 626 at 36].

1. The Valencia parties' position: Dr. Phillips is unqualified to provide an expert opinion that Robert Valencia likely ingested marijuana within the hour of his death and as a result he was impaired

Dr. Phillips graduated and received his M.D. from the American University of the Caribbean School of Medicine, Montserrat, B.W.I., in 1984. He is a Fellow of the American College of Medical Toxicology, as well as a Fellow of the American Academy of Clinical Toxicology. Since 1999, he has served as an associate clinical professor, Division of Clinical Pharmacology & Toxicology, in the Department of Medicine at the University of Colorado Health Sciences Center. He also is an attending physician in medical toxicology at Sky Ridge Medical Center, Lone Tree, Colorado. Dr. Phillips is board-certified in medical toxicology and internal medicine and, since 2000, has served as senior associate editor/medical toxicology advisor on both the TOMES and POISINDEX editorial boards. He has written and spoken extensively on toxicology-related issues, and currently serves as a peer reviewer for a number of toxicology-related publications. [See Doc. 565; Exh. A, Curriculum Vitae of Scott D. Phillips, M.D.]. On the basis of these credentials, the Court concludes that Dr. Phillips qualifies by education, training, and experience as an expert in the field of toxicology.

In his written report, Dr. Phillips noted that the report done after Mr. Valencia's autopsy revealed that his THC level was 23 ng/ml, while his Carboxy-THC level was 12 ng/ml. He explained that there is a report that has "found that there is impairment [] in most

tests of performance at levels of [Delta]-9-THC between 5 and 10 ng/ml and in all subjects with levels in excess of 30 ng/ml (serum).” He stated that other [s]tudies have addressed the relationship between blood levels of [Delta]-9-THC and impairment [and that] these studies have found impairment in cognitive functioning.” Dr. Phillips further explained that “[p]lasma [Delta]-9-THC concentrations greater than 10 ng/ml are uncommon after one hour even after moderate to high doses of cannabis use.” [Doc. 516; Exh. 3, Fisher report at 7]. Finally, Dr. Phillips considered studies that have addressed the relationship between levels of THC and impairment, as well as figures and graphs demonstrating THC metabolism, half-life distribution, and the time course of varying subjective effects, depending on the parent compound or metabolite. [Doc. 516; Exh. 3, Fisher report at 6-7].

As did Dr. Fisher, Dr. Phillips also considered the theory of postmortem redistribution, but stated the belief that “[i]f it was a factor . . . it would [not have been] a substantial factor.” [Doc. 516; Exh. 1, Phillips depo. at 41-42]. Through his deposition, Dr. Phillips also testified that blood concentrations of THC can change after death, and that while he knows of no published evidence suggesting that THC levels decrease after death, a decrease is “possible.” [Id.; Exh. 1, Phillips depo. at 57].

On the basis of the scientific literature, the OMI’s toxicology report, and his own medical knowledge, Dr. Phillips reached the conclusion that Mr. Valencia “was intoxicated, and impaired by marijuana. . . .” On the basis of his knowledge of the elimination half-life of Delta-9-THC, as well as Stella Valencia’s representation that Mr. Valencia had dropped her off at work at 6:00 a.m. on the morning of the accident but that she had not seen him

smoke marijuana, Dr. Phillips concluded that Mr. Valencia “likely” smoked marijuana within one hour of the collision.

The Court concludes that Dr. Phillips’ proposed testimony regarding Mr. Valencia’s impairment and the likelihood that he consumed marijuana within one hour of the collision is (1) relevant; (2) the product of reliable principles and methods (i.e., the scientific literature he cited in his expert report and listed in the bibliography that was made a part of that report); and (3) likely to assist the jury. See Fed.R.Evid. 702.

2. The Valencia parties’ position: the toxicology report that Dr. Phillips relied upon to conclude that Mr. Valencia was impaired at the time of the incident and that he had likely consumed marijuana within the hour of the accident was unreliable and flawed

In this section of their motion, the Valencia parties mount the same challenge to Dr. Phillips’ conclusions as they did with Dr. Fisher—that Dr. Phillips’ opinion as to time of marijuana use and impairment, which is based upon his reading and interpretation of the OMI’s toxicology report, is “shear [sic] speculation and totally unreliable.” As they did with Dr. Fisher, the Valencia parties maintain that the toxicology report itself is unreliable because the pleural blood that was tested would likely have shown falsely elevated THC concentrations due to postmortem redistribution, or the movement of drugs in the body after death. [Doc. 516 at 5-8].

The Court has already concluded that the evidence does not support a determination that the OMI’s toxicology report in this case is flawed or unreliable. The Court incorporates here the reasoning, determinations, and conclusions set forth in Section II.C.2.

3. The Valencia parties' position: Dr. Phillips failed to consider other more reliable sources of information to determine whether or not Mr. Valencia was impaired at the time of the incident

As they did with Dr. Fisher, the Valencia parties criticize Dr. Phillips' opinion as unreliable and speculative because of Dr. Phillips' alleged failure to take into account eyewitness observations of Mr. Valencia's behavior on the morning of the collision. [See Doc. 514 at 11-14]. However, as stated in his written report, among the materials Dr. Phillips reviewed in forming his conclusions were Stella Valencia's answers to BNSF's first set of interrogatories. [Doc. 516; Exh. 3 at 2]. In fact, Dr. Phillips relied on Mrs. Valencia's answers when he concluded that

Mr. Valencia must have consumed the marijuana within a few short hours of the accident, and likely within one hour based on the elimination half-life of Delta-9-TCH, *and the answer to interrogatories of his wife. She stated that he had not smoked up until he left her at work at approximately 6:00 am on the day of the accident.*

[*Id.*; Exh. 3 at 10 (emphasis added)]. Dr. Phillips also testified that, as a medical doctor, he believed that "it might be useful" to consider an eyewitness account of someone with medical training in evaluating whether an individual is impaired, but that "relying on third-party laypeople to make some sort of medical assessment . . . would be fraught with a lot of limitations." [Doc. 514; Exh. 4 at 28-29]. As was the case with Dr. Fisher, whether Dr. Phillips failed to consider what the Valencia parties term "other more reliable sources of information" for determining whether Mr. Valencia was impaired at the time of the collision relates to the weight of the evidence, not its admissibility.



Again, the Court concludes that Dr. Fisher's proposed testimony regarding time of marijuana ingestion and likelihood of impairment is (1) relevant; (2) the product of reliable principles and methods; and (3) likely to assist the jury. See Fed.R.Evid. 702. Accordingly, the Valencia parties' motion to exclude Dr. Phillips' testimony will be denied.

### **III. CONCLUSION**

For the reasons set forth more fully above, the Court will deny *The Duran Parties' Motion to Preclude an Opinion of Steven Karch, M.D. as Beyond his Qualifications*; grant *BNSF Railway Company's First Motion in Limine, to Exclude the Opinions of Dr. Steven B. Karch as Inadmissible under the Rules of Evidence and Daubert*; deny the *Valencia Claimants' Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of BNSF Railway Company's Expert Don C. Fisher, M.D. Pursuant to the Federal Rules of Evidence and Daubert* and deny the *Valencia Claimants' Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of El Paso Natural Gas Company Expert Scott Phillips, M.D. Pursuant to the Federal Rules of Evidence and Daubert*. As always, these pretrial evidentiary rulings are subject to reconsideration in the event that unforeseen circumstances or a change in context should arise during the trial.

**IT IS, THEREFORE, ORDERED** that *The Duran Parties' Motion to Preclude an Opinion of Steven Karch, M.D. as Beyond his Qualifications* [Doc. 394] is **DENIED**;

**IT IS FURTHER ORDERED** that *BNSF Railway Company's First Motion in Limine, to Exclude the Opinions of Dr. Steven B. Karch as Inadmissible under the Rules of Evidence and Daubert* [Doc. 491] is **GRANTED**;

**IT IS FURTHER ORDERED** that the *Valencia Claimants' Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of BNSF Railway Company's Expert Don C. Fisher, M.D. Pursuant to the Federal Rules of Evidence and Daubert* [Doc. 514] is **DENIED**;

**IT IS FURTHER ORDERED** that the *Valencia Claimants' Motion in Limine with Supporting Authorities, to Exclude the Opinions and Testimony of El Paso Natural Gas Company Expert Scott Phillips, M.D. Pursuant to the Federal Rules of Evidence and Daubert* [Doc. 516] is **DENIED**;

**IT IS FURTHER ORDERED** that the pretrial evidentiary rulings set forth herein are subject to reconsideration in the event that unforeseen circumstances or a change in context should arise during the trial.

**SO ORDERED** this 3rd day of February, 2009, in Albuquerque, New Mexico.

  
**M. CHRISTINA ARMILJO**  
United States District Judge